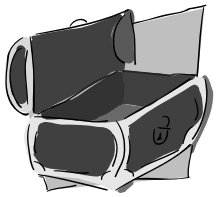
Glossary



Acid Soil
A soil that contains more hydrogen ions than hydroxide ions and therefore has a pH less than 7.0

Alluvium
Sediment transported by flowing water (e.g. a stream)

Anomaly
Something irregular or abnormal

Basic Soil
A soil that contains more hydroxide ions than hydrogen ions and therefore has a pH greater than 7.0

Blocky Structure
Irregular block-like soil peds that are usually 1.5 cm to 5.0 cm in diameter

Bulk Density
Mass of dry soil per unit volume (expressed in GLOBE as grams per cubic centimeter)

Chroma
When referenced to hue, the level of intensity of a color

Columnar
A type of soil structure where the soil peds (or chunks) are in the shape of a column with a rounded top. This is found in arid regions.

Concretions
Rounded masses of mineral matter

Crytoturbation
Process of freezing, thawing, and churning of a soil

Dissolution
Soils, among other compounds, start dissolving into smaller units when placed in contact with water.

Diurnal cycle
A daily cycle, a basic repetition period of 24 hours. All processes that are dominated by the sun are diurnal. Tides, in contrast, repeat cycles twice daily.

Effervescence
The bubbling action that occurs as a gas comes out of a liquid for example when the carbon dioxide gas caused by the reaction of carbonate coatings on soil with an acid bubbles through acidic liquid

Eluviation
The removal of materials in one horizon which are then "illuviated" or deposited into a lower horizon

Erosion
The removal and movement of soil materials by water, wind, ice, or gravity as well as by human activities such as agriculture or construction

Evaporation
Water on Earth's surface or in the soil absorbs heat from the sun to the point that it vaporizes or evaporates and becomes part of the atmosphere

Extremely Firm
A type of soil consistence in which soil peds require extreme pressure, requiring the use of a tool (e.g., a hammer), to break

Face
The way an exposed section of soil or soil profile appears

Firm
A type of soil consistence in which the soil peds require significant pressure before breaking

Floury
Having the feel of wheat flour – smooth and powdery

Free Carbonates
Carbonate materials that form coatings on soil that react with an acid to form carbon dioxide gas

Freeze-thaw
The mechanical break up of rock caused by the expansion of freezing water in cracks and crevices

Friable
A type of soil consistence in which the soil ped "pops" when squeezed between the thumb and fore finger with a small amount of pressure

Glacial Till
Sediment deposited from a melting glacier

Granular Structure
Roundish soil peds that are usually less than 5.0 cm in diameter

Gravimetric
Relating to measurement by weight or variations in a gravitational field

Groundwater
Water stored underground in a saturated zone of rock, sand, gravel or other material

Heat Capacity
The ratio of the heat required to raise the temperature of an object or substance to the change in temperature

Horizon
An individual layer within the soil which has its own unique characteristics (such as color, structure, texture, or other properties) that make it different from the other layers in the soil profile

Hue
A particular color as distinguished from other colors

Humus
The part of the soil profile that is composed of decomposed organic matter from dead and decaying plants and animals

Hydrometer
An instrument based on the principles of buoyancy used to measure the specific gravity of a liquid in relation to the specific gravity of pure water at a specified temperature

Illuviation
The deposit of materials carried by water from one horizon into another within the soil (such as clay or nutrients in solution)

Infiltration
Downward entry of water into the soil

In situ
Latin for the original position

Leaching
Removal of soluble material in solution from the soil by the movement of water through the soil

lithosphere
The outer layer of soul and rock on a planet is called the "lithosphere" after the Greek word "lithos" meaning "stone."

Litter
The covering over the soil in a forest made up of leaves, needles, twigs, branches, stems, and fruits from the surrounding trees

Loess
Sediment transported by wind

Loose
A type of soil consistence in with the soil grains do not stick to one another (i.e. structure is single grained).

Massive Structure
A structureless soil in which all soil particles are stuck together and there are no distinct peds

Metadata
Data about data. Soil moisture data requires metadata describing the vegetation cover and possible sources of water in order to be interpreted properly.

Mottles
Spots of different colors in a soil, usually indicating poor drainage

Nomenclature
A particular naming convention agreed to by many individuals or scientists

Organic Matter
Any plant or animal material added to the soil

Particle Density
The mass per unit volume of soil particles, excluding pore space

Particle Size Distribution
The amount (percent) of each of sand, silt, and clay in a soil sample

Ped
An individual unit of natural soil structure or aggregation (such as granular, blocky, columnar, prismatic, or platey)

Pedogenesis
The formation of soil profiles depending on the five soil-forming factors (climate, parent material, topography, organisms, and time) to create the Pedosphere

Pedosphere
The thin outer layer of the Earth which is made up of soil. The pedosphere acts as an integrator between the atmosphere, biosphere, lithosphere, and hydrosphere of the Earth.

Permafrost
A continuously frozen soil horizon

Platy Structure
Flat, plate like soil peds

Porosity
Percentage of soil volume not occupied by solid material

Prismatic
A type of soil structure in which the soil ped is in the shape of a prism

Runoff
Water that falls on the land surface but does not infiltrate and therefore flows across the land surface

Single-grained Structure
A structureless soil in which each soil grain is loose in the soil (i.e. there are no peds)

Soil Consistence
How easy or hard it is for a soil ped to break apart when it is squeezed

Soil Fertility
The ability of a soil to supply the elements and compounds needed for plant growth

Soil Horizons
An identifiable soil unit due to color, structure, or texture

Soil pH
Measure of the acidity of a soil

Soil Profile
The "face" of a soil when it has been cut vertically that shows the individual horizons and soil properties with depth

[Soil] Saturation
When the pores of a soil are completely filled with water

Soil Structure
The shape of soil units (peds) that occur naturally in a soil horizon. Some possible soil structures are granular, blocky, prismatic, columnar, or platy. Soils can also be structureless if they do not form into peds. In this case, they may be a consolidated mass (massive) or stay as individual particles (single-grained).

Soil Texture
The way soil "feels" when it is squeezed between the fingers or in the hand. The texture depends on the amount of sand, silt, and clay in the sample (particle size distribution), as well as other factors (how wet it is, how much organic matter is in the sample, the kind of clay, etc.)

Soil Water Content
A measure of how much water is present in the pores of a soil, specifically, the ratio of the mass of water to the mass of dry soil.

Subsoil
The common term for the layers beneath the topsoil

Supernatant
Liquid above the settled soil that is cleaner than the soil

Topsoil
The common term for the top layer of soil

Transect
In any field (outdoor) study, a transect consists of a line of study, often divided into intervals where observations or samples are collected.

Transpiration
Water in plants escapes or transpires into the atmosphere as the leaf stomates open to exchange carbon for oxygen.

Uniform
This term is used in its traditional sense that some characteristic displays similar properties, Two related words are homogeneous (distributed evenly) and normal (distributed about a central mean value and described by a statistical equation).

Value
When referenced to hue, an indication of the lightness of a color.

Volatilization
Evaporation of elements from the soil

Water Erosion
The physical fracturing and chemical decomposition of rock by water

Wind Erosion
The disintegration and decomposition of rock by wind